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United States
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Idaho Basin Outlook Report February 1, 2001

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Crater Meadows SNOTEL Site, North Fork Clearwater River Basin, Idaho

Basin Outlook Reports and Federal - State - Private Cooperative Snow Surveys

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<http://idsnow.id.nrcs.usda.gov/>

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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IDAHO WATER SUPPLY OUTLOOK REPORT

February 1, 2001

SUMMARY

January brought snow and cold temperatures to lower elevations across the state but forgot about the higher elevations, which is where the snow is needed the most. The second half of winter started in mid-January, but the precipitation took a turn for the worse. January mountain precipitation ranged from 20-40% of average for all basins across the state except for the Southside Snake River basins whose precipitation was 62% of average. As a result, snow water content levels decreased by 10-20 percentage points across most basins and range from 45-75% of average for most of the state. Streamflow forecasts also decreased by 10-20 percentage points and now range from 50-75% of average for most streams. Water users should be prepared for marginal water supplies. Water supply shortages may occur in some central and southern basins and for instream water users. Based on current projections, irrigators using water in the Payette, Boise, upper Snake and Bear Lake systems should have an adequate water supply. The water supply outlook can still improve with 40% of the snow season still to come.

SNOWPACK

The lack of January precipitation also decreased snowpack percentages by 10-20 points across most basins. Snowpacks now range from 45-75% of average across most of the state. The exception is the Owyhee basin, which benefited from the low elevation snowfall and is about 93% of average. The lowest snowpacks are in the 40-50% of average range in the area from the Payette basin north to Canada and the headwaters of the Henrys Fork and Snake River in Wyoming. The snowpack is the 2nd lowest since 1961 in the North Fork Payette and Middle Fork Salmon basin, 3rd lowest for the Snake River above Heise and North Fork Clearwater basins; and 5th lowest for the Boise basin. Individual sites such as Brundage Reservoir near McCall and Lewis Lake Divide in Yellowstone NP, are the second lowest since records started in 1948 and 1938 respectively. Only 1977 had less snow than this year.

PRECIPITATION

January precipitation was minimal and even worse than December's precipitation. January mountain precipitation ranged from 20-40% of average for all basins across the state except for the Southside Snake River basins whose precipitation was a whopping 62% of average. Total precipitation amounts ranged from HALF AN INCH in the Upper Snake basin to 5 inches at a few sites in the Panhandle Region and Clearwater River basin. Normal January precipitation amounts should be in the 4 to 12 inch range. Water year to date precipitation range from a high of 75% of average in the Southside Snake River basins to 44% in the Panhandle Region. Precipitation in the range of 150-200% of average is needed in the next 2-3 months to return to near normal snow levels. However, the chances of this occurring are in the single digits. The next best thing we could hope for is above normal precipitation to reach snow levels of 80% of average on April 1. Another option would be for a cool wet spring, April-May-June. This would delay the onset of melt and provide additional soil moisture during the planting season.

RESERVOIRS

Reservoir storage varies across the state. Reservoirs or reservoir systems that are 50-62% of capacity include: Dworshak, Payette, Boise, upper Snake and Bear Lake. Salmon Falls Reservoir has the lowest storage at 35% of average, only 10% of capacity. Coeur d'Alene Lake is only at 12% of its normal summer level. The lake is basically at its natural level and is waiting for at least one rain event to provide the usual winter flows and allow production of more hydropower. Brownlee Reservoir is currently 91% of capacity, 116% of average, but the projected streamflow forecast for Hells Canyon Dam is a meager 48% of average. Some reservoirs will not fill this spring as a result of low snow and streamflows, nor will as much hydropower be produced this year. Winter rains and more snow are needed to get water into and moving through the Pacific Northwest river and reservoir system!

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive and in some cases dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in this report.

STREAMFLOW

Streamflow forecasts dropped 10-20 percentage points from last month and now range from 50-75% across the state. The lowest forecasts call for 42-55% of average in the Pend Oreille, Weiser, Payette, Big Wood, Blackfoot, American Falls, and Hells Canyon drainages. Potential irrigation shortages are possible in the central and southern Idaho basins as indicated by the Surface Water Supply Index (SWSI). Irrigators who rely on storage water in the Boise, Payette, Upper Snake and Bear Lake are projected to have adequate water supplies. As a result of the lack of high elevation snow, water users will see streamflow levels return to baseflow levels earlier than normal. Minimum streamflow levels may also pose a problem in late summer in some areas.

RECREATION

River runners may want to jumpstart the boating season this spring when the streams start rising. As a result of the low snow level, the high water season will be much shorter, if there is one at all. This will also allow boaters to put on the river earlier than normal. Reservoir storage water will help extend the river running season below the reservoirs. However, power boaters and recreationists at reservoirs can expect earlier drawdowns of reservoirs this summer. River runners looking to float the Owyhee and Bruneau high desert streams should be ready to go when the temperatures warm up. The outlook can still improve with a cool wet spring. River runners floating streams where fires occurred last year should use caution for possible down trees that fell in the river.

IDAHO SURFACE WATER SUPPLY INDEX (SWSI) As of February 1, 2001

The Surface Water Supply Index (SWSI) is a predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences.

SWSI values are published January through May and provide a more comprehensive outlook of water availability than either streamflow forecasts or reservoir storage figures alone. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been established for most basins to indicate the potential for agricultural water shortages.

The following agencies and cooperators provide assistance in the preparation of the Surface Water Supply Index for Idaho:

US National Weather Service
US Bureau of Reclamation
Idaho Water Users Association

US Army Corps of Engineers
Idaho Dept. of Water Resources
PacifiCorp

<i>BASIN or REGION</i>	<i>SWSI Value</i>	<i>Most Recent Year With Similar SWSI Value</i>	<i>Agricultural Water Supply Shortage May Occur When SWSI is Less Than</i>
PANHANDLE	-3.3	1987/94	NA
CLEARWATER	-3.2	1987	NA
SALMON	-2.5	1991	NA
WEISER	-3.0	1991	NA
PAYETTE	-2.7	1991	NA
BOISE	-2.6	1994	-2.6
BIG WOOD	-2.2	1989	-1.4
LITTLE WOOD	-1.8	1989	-2.1
BIG LOST	-1.9	1987	-0.8
LITTLE LOST	-1.7	1991	0.0
HENRYS FORK	-2.0	1991	-3.3
SNAKE (AMERICAN FALLS)	-1.9	1989/91	-2.0
OAKLEY	-0.4	1993	0.0
SALMON FALLS	-1.5	1981/94	0.0
BRUNEAU	-1.4	1991	NA
OWYHEE	-0.9	1994	NA
BEAR RIVER	-1.4	1981	-3.8

SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

-4	-3	-2	-1	0	1	2	3	4
-----	-----	-----	-----	-----	-----	-----	-----	
39%	87%	75%	63%	50%	37%	25%	13%	1%
Much	Below			Near Normal		Above	Much	
Below	Normal			Water Supply		Normal	Above	

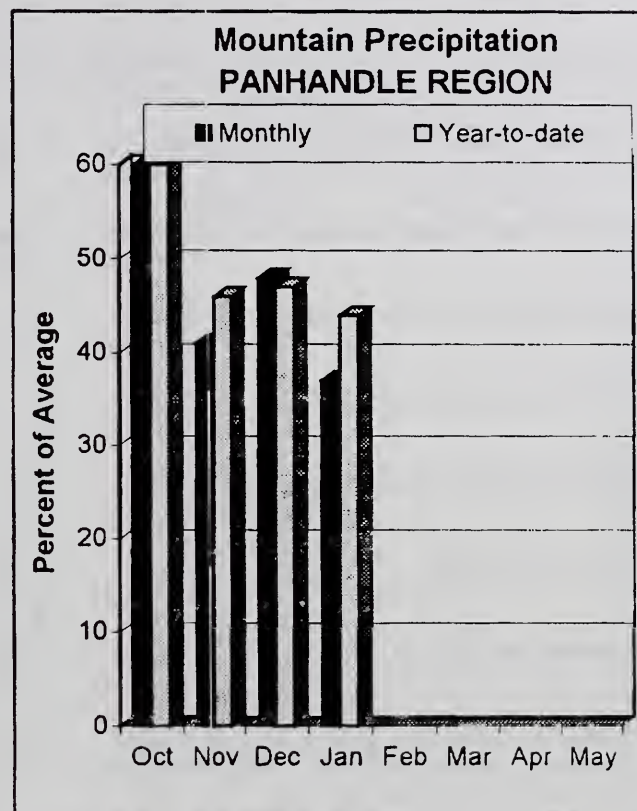
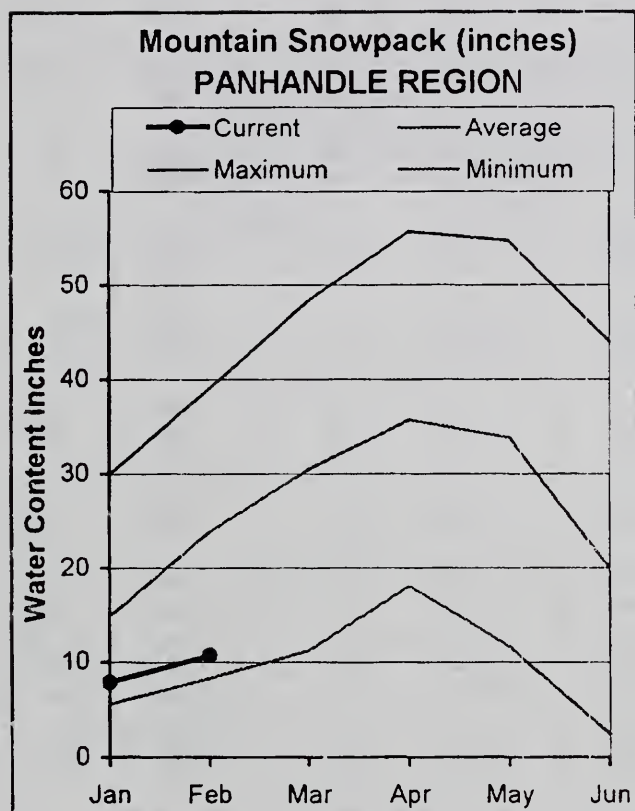
Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

BASIN-WIDE SNOWPACK SUMMARY
FEBRUARY 2001

BASIN	NUMBER OF DATA SITES	PERCENT OF LAST YEAR	PERCENT OF AVERAGE
PANHANDLE REGION			
Kootenai ab Bonners Ferry	23	50%	46%
Moyie River	10	54%	50%
Priest River	4	44%	48%
Pend Oreille River	71	56%	52%
Rathdrum Creek	5	55%	78%
Hayden Lake	0	0%	0%
Coeur d'Alene River	5	52%	55%
St. Joe River	3	47%	44%
Spokane River	12	52%	60%
Palouse River	1	62%	84%
CLEARWATER RIVER BASIN			
North Fork Clearwater	9	48%	49%
Lochsa River	4	52%	51%
Selway River	5	52%	56%
Clearwater Basin Total	18	51%	53%
SALMON RIVER BASIN			
Salmon River ab Salmon	8	60%	50%
Lemhi River	5	69%	61%
Middle Fork Salmon River	3	49%	42%
South Fork Salmon River	3	48%	43%
Little Salmon River	4	54%	44%
Salmon Basin Total	23	57%	50%
WEISER, PAYETTE, BOISE RIVER BASINS			
Mann Creek	1	69%	57%
Weiser River	3	62%	47%
North Fork Payette	8	53%	50%
South Fork Payette	4	58%	42%
Payette Basin Total	13	57%	50%
Middle & North Fork Boise	6	64%	53%
South Fork Boise River	8	74%	61%
Mores Creek	4	83%	82%
Boise Basin Total	14	75%	64%
Canyon Creek	2	90%	94%
WOOD AND LOST RIVER BASINS			
Big Wood ab Magic	7	75%	57%
Camas Creek	4	75%	71%
Big Wood Basin Total	11	76%	61%
Little Wood River	4	88%	59%
Fish Creek	2	69%	54%
Big Lost River	6	92%	59%
Little Lost River	3	82%	62%
Birch-Medicine Lodge Creeks	2	82%	71%
UPPER SNAKE RIVER BASIN			
Camas-Beaver Creeks	4	93%	54%
Henrys Fork-Falls River	10	66%	51%
Teton River	8	82%	66%
Henrys Fork above Rexburg	18	73%	57%
Snake above Jackson Lake	9	66%	51%
Gros Ventre River	3	81%	56%
Hoback River	6	72%	57%
Greys River	4	68%	59%
Salt River	5	70%	62%
Snake above Palisades	29	69%	55%
Willow Creek	6	82%	75%
Blackfoot River	4	74%	60%
Portneuf River	5	84%	62%
Snake abv American Falls Resv	41	72%	58%
SOUTHSIDE SNAKE RIVER BASINS			
Raft River	2	76%	73%
Goose-Trapper Creeks	3	81%	69%
Salmon Falls Creek	7	100%	83%
Bruneau River	8	98%	82%
Owyhee Basin Total	20	100%	93%
BEAR RIVER BASIN			
Smiths & Thomas Forks	4	77%	61%
Bear River ab WY-ID line	11	82%	61%
Montpelier Creek	2	91%	64%
Mink Creek	1	83%	56%
Cub River	1	82%	63%
Bear River ab ID-UT line	18	84%	61%
Malad River	1	115%	74%

PANHANDLE REGION

FEBRUARY 1, 2001



WATER SUPPLY OUTLOOK

January precipitation was extremely low at only 37% of average for the region as a whole. Actual amounts ranged from 1.4 inches in western Montana to 5.2 inches along St. Joe/North Fork Clearwater basin divide. Normal January amounts should be in the 5-13 inch range! Precipitation for the water year is a dismal 44% of average, the lowest in the state. The high elevation snowpack ranges from about 45% of average in the Kootenai above Bonners Ferry and St. Joe basins to 52% for the 71 stations in the Pend Oreille River basin. The low elevation snowpack, below approximately 3,500 feet, fairs slightly better but is still below normal for the most part. A four-station index of low and high elevation sites shows the St. Joe basin snowpack is the 2nd lowest since 1961. Only 1977 had less snow, while this year is slightly better than 1981. Coeur d'Alene Lake is only at 12% of its normal summer level. The lake is basically at its natural level and is waiting for at least one rain event to provide the usual winter flows and allow production of more hydropower. Streamflow forecasts decreased 10-20 percentage points from last month and now range from 55-65% of average for these streams. Water users should be preparing for much below normal runoff volumes and earlier return to low flow conditions in the summer. On the positive side, flooding is not likely and high water levels should not inundate low-lying areas behind levees or agricultural land as it does in high snow years.

PANHANDLE REGION
Streamflow Forecasts - February 1, 2001

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>						30-Yr Avg. (1000AF)
		===== Chance Of Exceeding * =====						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
KOOTENAI at Leonia (1,2)	APR-JUL	3860	4219	4410	61	4797	5648	7199
	APR-SEP	4473	4804	5070	61	5464	6332	8275
MOYIE RIVER at Eastport	APR-JUL	220	252	274	66	296	328	415
	APR-SEP	223	261	284	66	307	340	430
SMITH CREEK	APR-JUL	52	67	78	65	89	104	120
	APR-SEP	53	70	82	65	94	111	126
BOUNDARY CREEK	APR-JUL	53	68	78	66	88	103	119
	APR-SEP	56	71	81	65	91	106	125
CLARK FK at Whitehorse Rpgs (1,2)	APR-JUL	3162	5526	6600	56	7674	10038	11730
	APR-SEP	3477	6079	7260	56	8441	11043	12910
PEND OREILLE Lake Inflow (2)	APR-JUL	4170	5926	7120	54	8314	10070	13150
	APR-SEP	3613	6094	7780	54	9466	11947	14370
PRIEST near Priest River (1,2)	APR-JUL	296	405	455	56	505	614	812
	APR-SEP	312	431	485	56	539	658	865
COEUR D'ALENE at Enaville	APR-JUL	297	409	485	63	561	673	769
	APR-SEP	306	422	500	62	578	694	809
ST. JOE at Calder	APR-JUL	502	635	725	62	815	948	1169
	APR-SEP	525	662	755	61	848	985	1237
SPOKANE near Post Falls (2)	APR-JUL	1073	1419	1655	63	1891	2237	2627
	APR-SEP	1054	1409	1650	61	1891	2246	2720
SPOKANE at Long Lake (2)	APR-JUL	1247	1645	1915	66	2185	2583	2905
	APR-SEP	1319	1736	2020	65	2304	2721	3128

PANHANDLE REGION Reservoir Storage (1000 AF) - End of January					PANHANDLE REGION Watershed Snowpack Analysis - February 1, 2001			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
HUNGRY HORSE	3451.0	2370.0	2685.0	2362.0	Kootenai ab Bonners Ferry	22	52	48
FLATHEAD LAKE	1791.0	748.0	717.0	1095.0	Moyie River	9	54	49
NOXON RAPIDS	335.0	301.1	323.6	314.2	Priest River	3	55	61
PEND OREILLE	1561.3	740.7	715.0	791.0	Pend Oreille River	69	58	53
COEUR D'ALENE	238.5	28.1	65.4	127.8	Rathdrum Creek	4	54	73
PRIEST LAKE	119.3	48.0	55.0	53.9	Hayden Lake	0	0	0
					Coeur d'Alene River	5	52	55
					St. Joe River	3	47	44
					Spokane River	11	52	57
					Palouse River	1	62	84

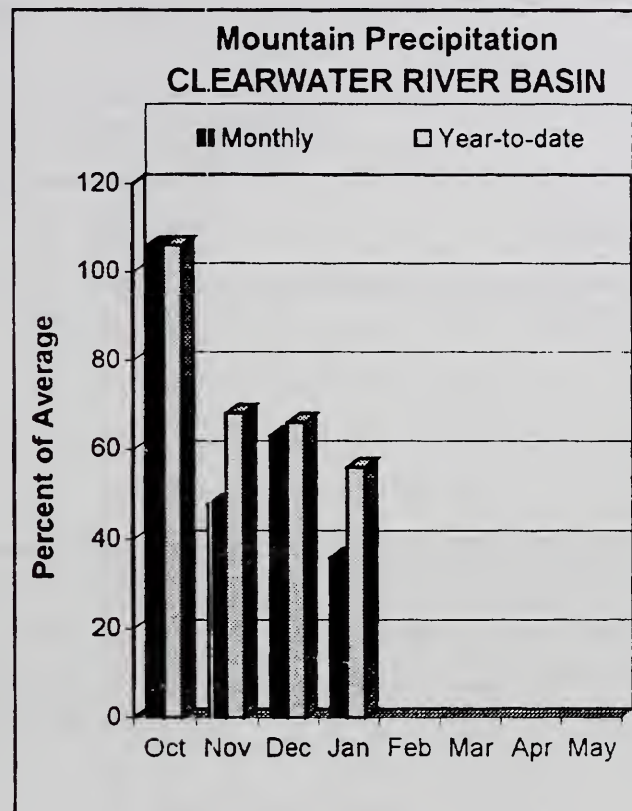
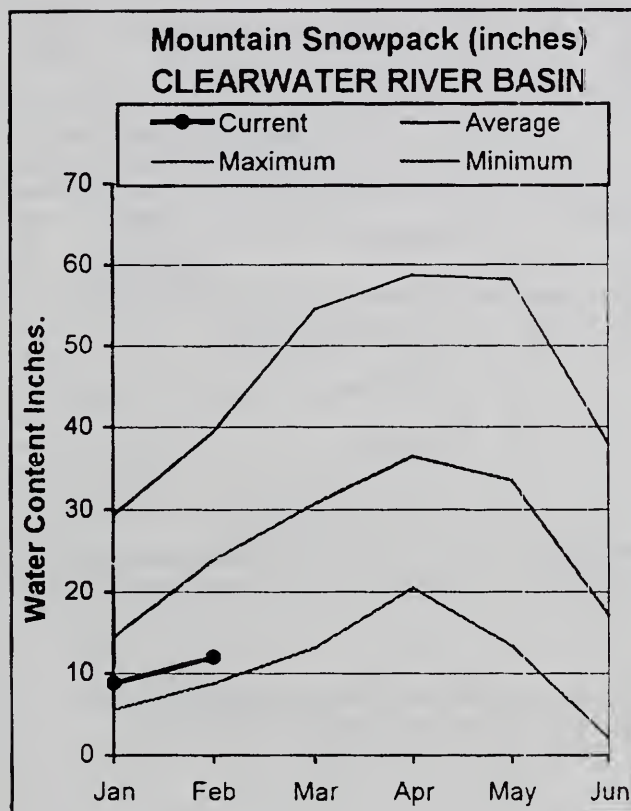
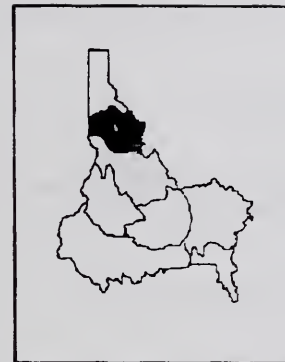
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

CLEARWATER RIVER BASIN

FEBRUARY 1, 2001



WATER SUPPLY OUTLOOK

The Clearwater River basin precipitation was a disappointing 36% of average for January. January is usually one of the bigger precipitation months with normal amounts ranging from 5-13 inches--last month's amounts ranged from 2-5 inches! Water year to date precipitation is a dismal 51% of average. Normal accumulation for the water year should be in the 15-40 inch range but are only in the 10-20 inch range! Similar to the rest of the state, the lower elevation snowpack is better than the high elevation snow. Sherwin SNOTEL site located at 3,200 feet near the headwaters of the Palouse, Potlatch and St. Maries rivers is 84% of average. The new Moscow Mountain SNOTEL site is also reporting a good snowpack of 10 inches of snow water and 40 inches of snow depth which is similar to the amounts at Mountain Meadows SNOTEL site at 6,360 feet in elevation. Snowpacks range from 49% of average in the North Fork Clearwater to 56% in the Selway basin. An 8-station snow index for the North Fork Clearwater River basin is the 3rd lowest since 1961. Only years 1977 and 1981 had less snow than this year! Dworshak Reservoir is 60% of capacity, 94% of average. Storage levels behind the dam were dropping about one foot a day to maintain minimum flows and produce hydropower but have since decreased. Streamflow forecasts dropped from last month and now call for 67-74% of average. Water users will see much below normal volumes this summer. As a result of the discouraging snowpack, river runners may want to float the rivers earlier than normal, as streams will return to the summer baseflow levels early.

CLEARWATER RIVER BASIN
Streamflow Forecasts - February 1, 2001

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>						30-Yr Avg. (1000AF)
		===== Chance Of Exceeding * =====						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
DWORSHAK RESV INFLOW (1,2)	APR-JUL	1040	1563	1800	67	2037	2560	2687
	APR-SEP	1149	1686	1930	68	2174	2711	2858
CLEARWATER at Orofino (1)	APR-JUL	2443	3163	3490	74	3817	4537	4729
	APR-SEP	2569	3333	3680	74	4027	4791	4990
CLEARWATER at Spalding (1,2)	APR-JUL	3693	4894	5440	71	5986	7187	7618
	APR-SEP	4027	5205	5740	71	6275	7453	8051

CLEARWATER RIVER BASIN Reservoir Storage (1000 AF) - End of January					CLEARWATER RIVER BASIN Watershed Snowpack Analysis - February 1, 2001			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
DWORSHAK	3468.0	2086.4	2367.0	2211.0	North Fork Clearwater	9	48	49
					Lochsa River	4	52	51
					Selway River	5	52	56
					Clearwater Basin Total	18	51	53

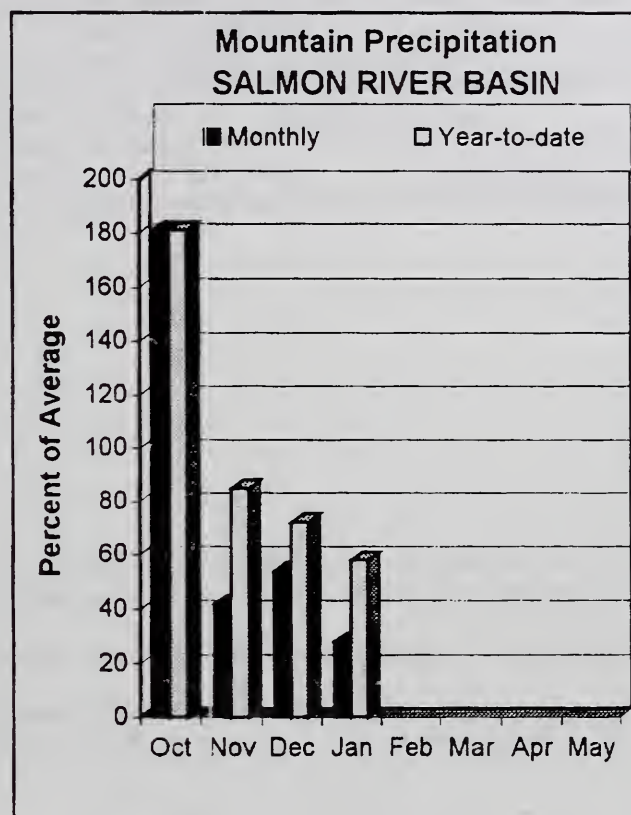
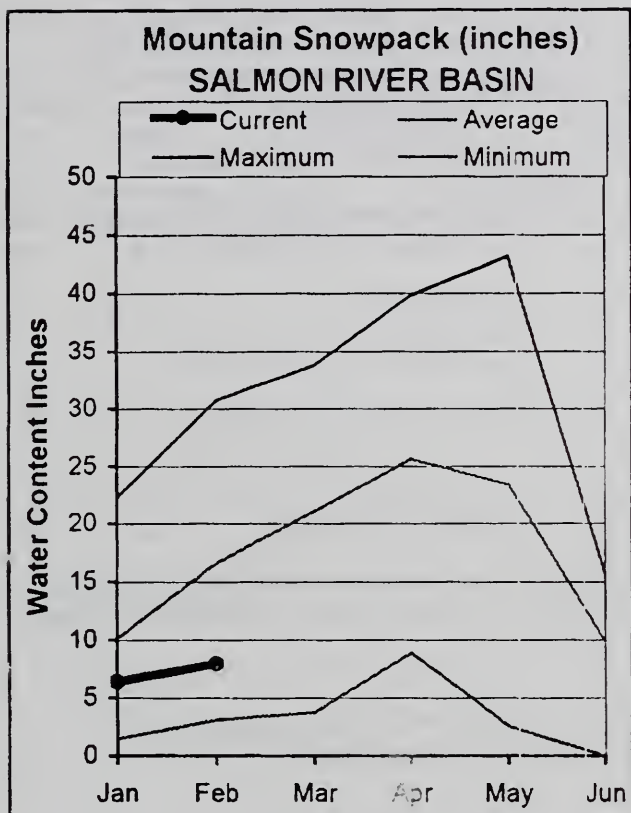
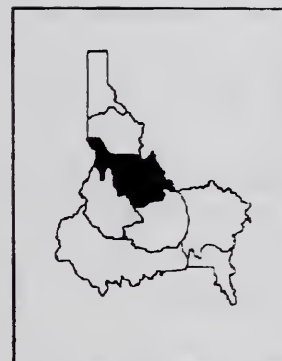
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

SALMON RIVER BASIN

FEBRUARY 1, 2001



WATER SUPPLY OUTLOOK

January precipitation was only 28% of average, tied with the Weiser, Payette, Boise River basins for the 2nd lowest in the state. Precipitation amounts ranged from 0.5 to 2.8 inches, while normal amounts are in the 3-10 inch range. Water year to date precipitation stands at only 58% of average, about the same as 1994. Current snowpack levels range from 61% of average in the Lemhi River basin to 43% in the Middle Fork Salmon, South Fork Salmon and Little Salmon basins. Overall, the Salmon basin snowpack is 50% of average. A three-station snow index of the Middle Fork Salmon River shows the snowpack is the 2nd lowest since 1963. Only year 1977 had less snow water than this year! Streamflow forecasts dropped about 20 percentage points from last month and call for 63% of average for the Salmon River above Salmon and 67% for the Salmon River at White Bird. Water users and river runners can expect a short high water season (if there is one) and summer baseflow levels to occur earlier than normal. River flows by late summer will probably be similar to those observed last summer.

SALMON RIVER BASIN
Streamflow Forecasts - February 1, 2001

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
SALMON at Salmon (1)	APR-JUL	300	472	550	63	628	800	869
	APR-SEP	369	559	645	63	731	921	1019
SALMON at White Bird (1)	APR-JUL	2418	3499	3990	67	4481	5562	5956
	APR-SEP	2703	3884	4420	67	4956	6137	6602

SALMON RIVER BASIN Reservoir Storage (1000 AF) - End of January					SALMON RIVER BASIN Watershed Snowpack Analysis - February 1, 2001			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					Salmon River ab Salmon	8	60	50
					Lemhi River	5	69	61
					Middle Fork Salmon River	3	49	42
					South Fork Salmon River	3	48	43
					Little Salmon River	4	54	44
					Salmon Basin Total	23	57	50

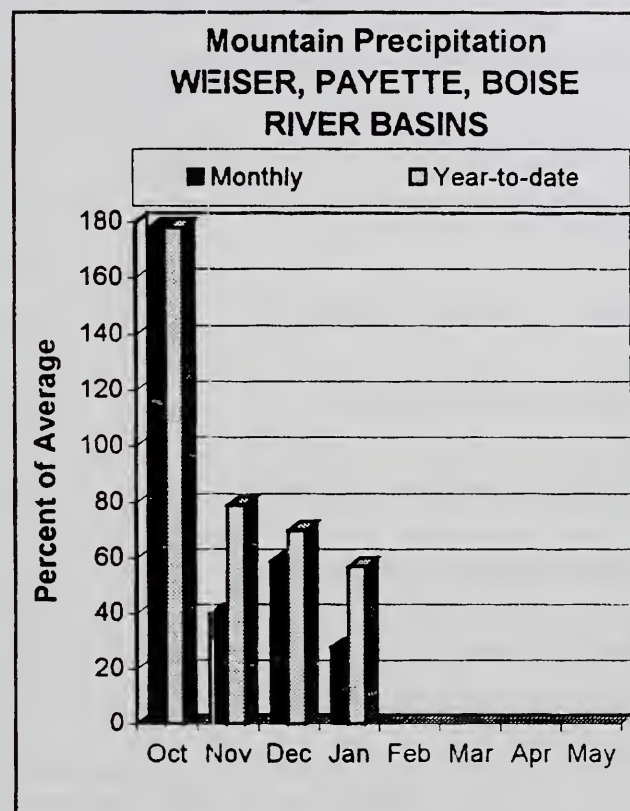
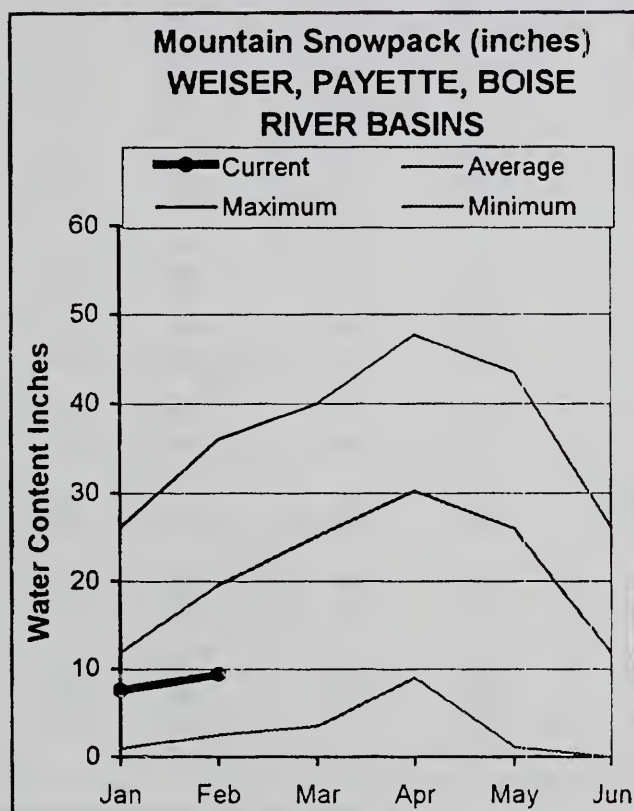
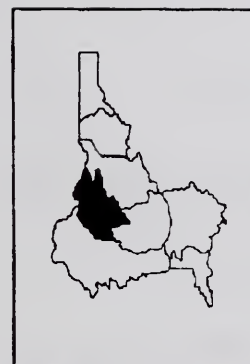
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The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

WEISER, PAYETTE, BOISE RIVER BASINS FEBRUARY 1, 2001



WATER SUPPLY OUTLOOK

January brought snow and cold temperatures to the valley but did not bring even close to the amount of moisture that usually falls in the mountains. January mountain precipitation, as measured by SNOTEL stations, was only 28% of average. Valley precipitation as measured by the NWS fared slightly better at 37% of average. Precipitation at the Boise Airport was 1.04 inches or 72% of average. The mountains received only slightly more precipitation, in the 1-3 inch range. Normal January amounts are in the 4-10 inch range. Low elevation snow measuring stations are reporting snowpacks in the near normal range. The snowpack in Mores Creek basin is 82% of average. However, as you increase elevation, the snow water deficit increases dramatically. Overall, the Boise basin snowpack is 64% of average; Payette and Weiser basins are about 50%, and the South Fork Payette basin is the lowest at 42% of average. The North Fork Payette basin is 50% and is the 2nd lowest since 1961. Only 1977 had less snow. Brundage Reservoir SNOTEL, located about 5 miles north of McCall, has the 2nd lowest February 1 snow levels since 1948. Only 1977 had less snow. The Payette Reservoir system is 59% of capacity while the Boise Reservoir system is half full. Streamflow forecasts call for 61% of average for the Boise River near Boise, 53% for the Payette River near Horseshoe Bend, and 53% for the Weiser River. These reservoirs may not fill this year, and drafting will occur early this year as a result of low streamflow projections. At present, water supplies should be adequate for Boise and Payette irrigators.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - February 1, 2001

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		===== Chance Of Exceeding * =====						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
WEISER near Weiser (1)	APR-SEP	4.0	151	220	53	289	440	415
SF PAYETTE at Lowman	APR-JUL	159	219	260	60	301	361	432
	APR-SEP	189	254	298	61	342	407	488
DEADWOOD RESERVOIR Inflow (1,2)	APR-JUL	47	73	84	62	95	121	135
	APR-SEP	49	76	88	62	100	127	143
LAKE FORK PAYETTE near McCall	APR-JUL	39	48	54	64	60	69	84
	APR-SEP	40	50	56	64	63	72	88
NF PAYETTE nr Cascade (1,2)	APR-JUL	119	233	285	58	337	451	496
	APR-SEP	119	244	300	56	356	481	533
NF PAYETTE nr Banks (2)	APR-JUL	189	291	360	56	429	531	648
	APR-SEP	204	315	390	57	465	576	690
PAYETTE nr Horseshoe Bend (1,2)	APR-JUL	408	729	875	54	1021	1342	1618
	APR-SEP	418	770	930	53	1090	1442	1755
BOISE near Twin Springs (1)	APR-JUL	222	345	400	63	455	578	631
	APR-SEP	233	364	423	62	482	613	686
SF BOISE at Anderson Ranch Dam (1,2)	APR-JUL	138	263	320	59	377	502	544
	APR-SEP	151	287	349	60	411	547	582
MORES CREEK near Arrowrock Dam	APR-JUL	62	86	103	80	120	144	129
	APR-SEP	65	90	107	80	124	149	134
BOISE near Boise (1,2)	APR-JUN	437	676	785	62	894	1133	1264
	APR-JUL	401	699	835	59	971	1269	1421
	APR-SEP	490	793	930	61	1067	1370	1535

WEISER, PAYETTE, BOISE RIVER BASINS
Reservoir Storage (1000 AF) - End of January

WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - February 1, 2001

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
MAHN CREEK	11.1	1.6	2.8	4.6	Mahn Creek	1	69	57
CASCADE	693.2	415.4	500.7	413.5	Weiser River	3	62	47
DEADWOOD	161.9	92.7	117.7	79.0	North Fork Payette	8	53	50
ANDERSON RANCH	450.2	280.0	373.2	290.2	South Fork Payette	4	58	42
ARROWROCK	272.2	123.7	186.8	216.0	Payette Basin Total	13	57	50
LUCKY PEAK	293.2	106.8	104.4	109.1	Middle & North Fork Boise	6	64	53
LAKE LOWELL (DEER FLAT)	165.2	98.8	103.6	117.9	South Fork Boise River	7	74	60
					Mores Creek	4	83	82
					Boise Basin Total	13	75	64
					Canyon Creek	1	90	123

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

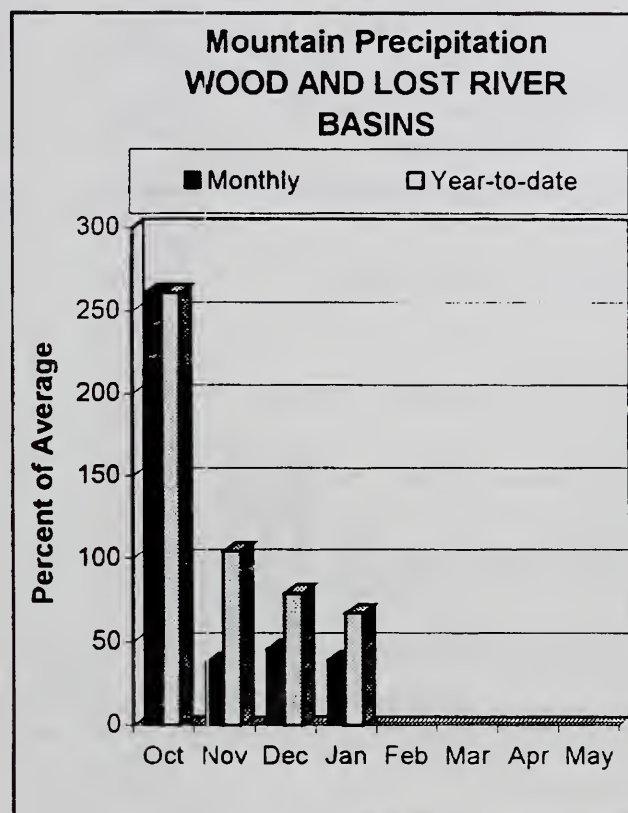
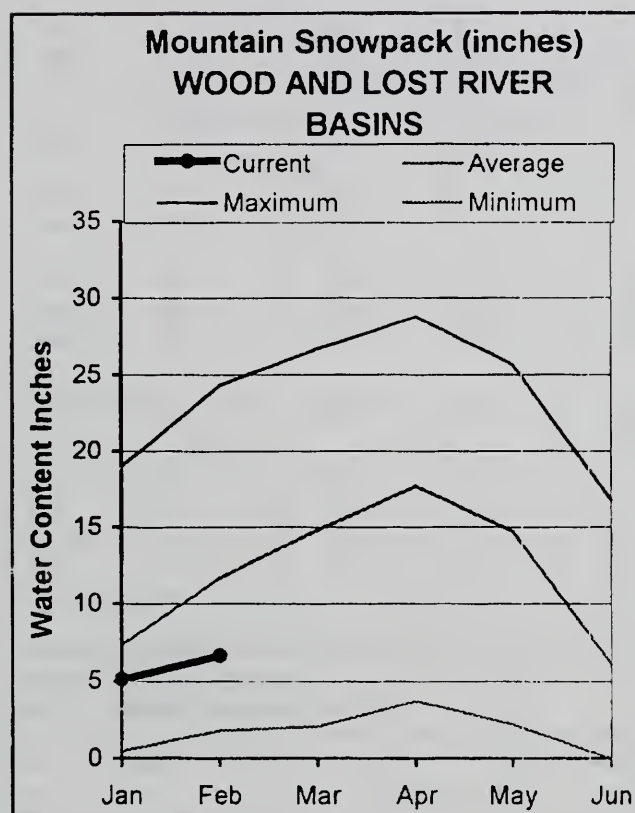
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WOOD and LOST RIVER BASINS

FEBRUARY 1, 2001



WATER SUPPLY OUTLOOK

Mountain precipitation was a disappointing 39% of average. Precipitation fared slightly better in the valley. Precipitation amounts were in the 70% of average range based on NWS valley stations. All SNOTEL stations received less than 3 inches; average January amounts should be in the 3-6 inch range. Snowpacks are about 60% of average in these central Idaho basins. The snow in the Little Wood, Big Lost, and Little Lost basins is slightly less than last year. All of these basins, including the Big Wood basin, have the lowest snowpacks since 1994, with the exception of some lower elevation sites that are near normal. Reservoir storage remains low with Magic Reservoir 22% full and Little Wood and Mackay each at about 45% full. Streamflow forecasts range from 55-70% of average for these central Idaho streams. Water users should be prepared for possible shortages, especially if future precipitation is below normal. The Surface Water Supply Index (SWSI), which combines reservoir storage with projected streamflow, is below the threshold where shortages occur in the Big Wood, Big Lost and Little Lost basins.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - February 1, 2001

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
BIG WOOD at Hailey (1)	APR-JUL	89	142	171	67	202	280	255
	APR-SEP	102	162	193	67	227	313	289
BIG WOOD near Bellevue	APR-JUL	40	72	99	54	130	185	183
	APR-SEP	46	80	108	55	141	196	197
CAMAS CREEK near Blaine	APR-JUL	23	40	55	54	72	101	102
	APR-SEP	23	41	56	54	73	103	103
BIG WOOD below Magic Dam (2)	APR-JUL	8.0	102	165	56	228	322	295
	APR-SEP	10.0	107	172	56	237	334	310
LITTLE WOOD near Carey (2)	MAR-JUL	22	42	56	56	70	90	100
	MAR-SEP	24	45	60	56	75	96	108
BIG LOST at Howell Ranch	APR-JUN	58	81	96	68	111	134	141
	APR-JUL	63	98	122	67	146	181	181
	APR-SEP	70	109	136	66	163	202	206
BIG LOST below Mackay Reservoir (2)	APR-JUL	37	71	94	62	117	151	152
	APR-SEP	52	89	114	62	139	176	184
LITTLE LOST blw Wet Creek	APR-JUL	14.5	19.1	22	72	26	30	31
	APR-SEP	18.0	24	28	72	32	38	39
LITTLE LOST nr Howe	APR-JUL	17.5	21	24	73	27	31	33
	APR-SEP	22	28	31	72	35	40	43

WOOD AND LOST RIVER BASINS Reservoir Storage (1000 AF) - End of January					WOOD AND LOST RIVER BASINS Watershed Snowpack Analysis - February 1, 2001			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
MAGIC	191.5	42.9	101.3	86.1	Big Wood ab Magic	7	75	57
LITTLE WOOD	30.0	14.0	18.2	15.4	Camas Creek	3	75	68
MACKAY	44.4	19.4	29.4	29.1	Big Wood Basin Total	10	76	59
					Little Wood River	4	88	59
					Fish Creek	2	69	54
					Big Lost River	6	92	59
					Little Lost River	3	82	62
					Birch-Medicine Lodge Cree	2	82	71

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

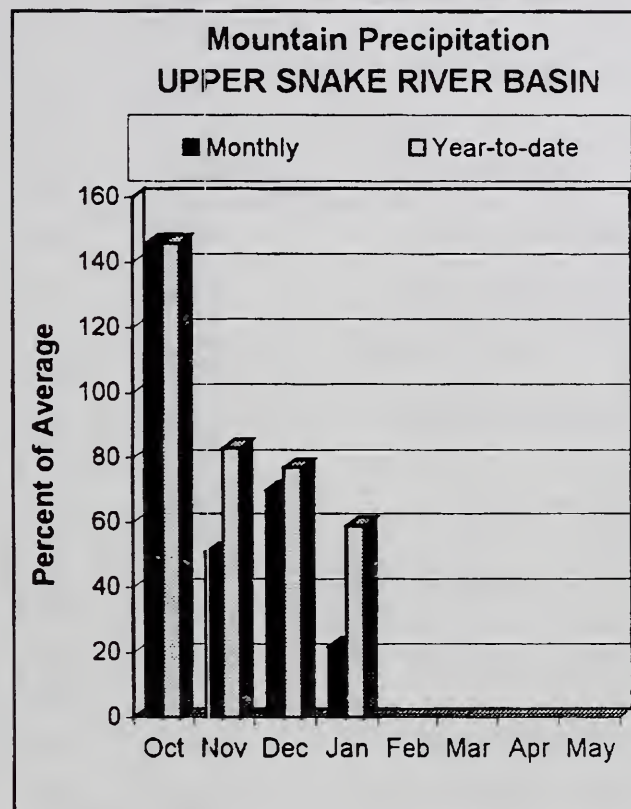
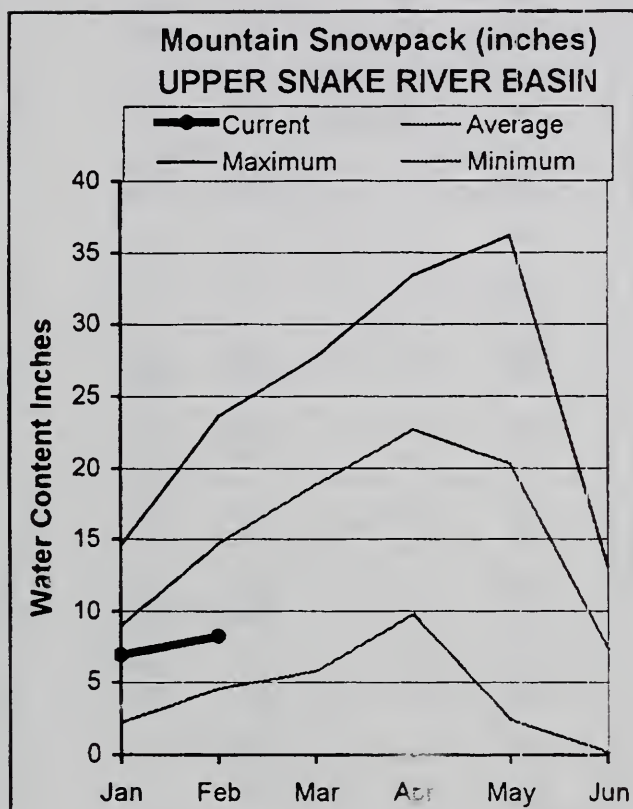
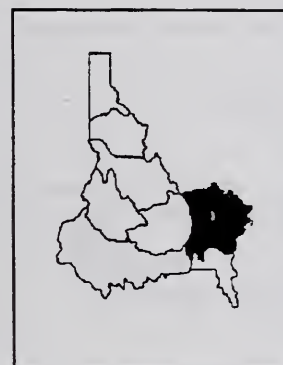
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UPPER SNAKE RIVER BASIN

FEBRUARY 1, 2001



WATER SUPPLY OUTLOOK

January precipitation in the basin was the lowest in the state at only 22% of average. This is the third month in a row that precipitation has been below average and one of the most critical months for building a snowpack. Water year to date precipitation is only 59% of average. Lewis Lake Divide SNOTEL site, located in Yellowstone NP, received only 0.7 inches of precipitation. Normal is 8.4 inches. This is the 2nd lowest January precipitation since records started in 1964. About 1/3 of the SNOTEL sites in the Upper Snake basin received less than an inch of moisture. As a result, snowpack percentages decreased from last month and now range from 50-60% of average. Lewis Lake Divide SNOTEL site is the 2nd lowest since 1938, only 1977 had less snow than this year. Overall, the Snake River Basin above Heise is the 3rd lowest since 1961, only years 1977 and 1981 had less snow. The 8 major reservoirs in the upper Snake system are 52% capacity, 92% of average. Palisades Reservoir reports the lowest volumes in the system at only 46% of capacity. The other reservoirs are half full or better. Streamflow forecasts decreased from last month and now range from 42% of average for American Falls Reservoir inflow to 75% for the Teton and Falls rivers. At present, irrigation shortages are not expected for the Henrys Fork or upper Snake River water users. But water users should be prepared for well below normal runoff volumes.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - February 1, 2001

Forecast Point	Forecast Period	<<==== Drier =====		Future Conditions =====		=====> Wetter >>>		30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
HENRYS FORK near Ashton (2)	APR-JUL	311	364	400	74	436	489	544
	APR-SEP	439	502	545	75	588	651	730
HENRYS FORK near Rexburg (2)	APR-JUL	583	748	860	70	972	1137	1228
	APR-SEP	796	983	1110	72	1237	1424	1551
FALLS near Squirrel (1,2)	APR-JUL	194	250	275	76	300	356	364
	APR-SEP	241	301	328	76	355	415	432
TETON near Driggs	APR-JUL	66	95	114	75	133	162	152
	APR-SEP	89	124	148	74	172	207	199
TETON near St. Anthony	APR-JUL	178	238	279	74	320	380	377
	APR-SEP	220	288	335	73	382	450	457
SNAKE near Moran (1,2)	APR-SEP	404	535	595	69	655	786	869
PACIFIC CREEK at Moran	APR-SEP	72	92	106	64	120	140	166
SNAKE above Palisades (2)	APR-JUL	1168	1395	1550	67	1705	1932	2311
	APR-SEP	1355	1614	1790	67	1966	2225	2671
GREYS above Palisades	APR-JUL	141	183	219	66	250	297	333
	APR-SEP	169	220	255	66	290	341	388
SALT near Etna	APR-JUL	113	171	210	66	249	307	319
	APR-SEP	146	214	260	65	306	374	399
PALISADES RESERVOIR INFLOW (1,2)	APR-JUL	1326	1853	2100	65	2342	2874	3226
	APR-SEP	1579	2173	2450	65	2722	3321	3763
SNAKE near Heise (2)	APR-JUL	1591	1983	2250	65	2517	2909	3451
	APR-SEP	1859	2306	2610	65	2914	3361	4049
BLACKFOOT RESV INFLOW	APR-JUN	14.0	42	62	55	82	110	113
SNAKE nr Blackfoot (1,2)	APR-JUL	1576	2493	2910	66	3327	4244	4444
	APR-SEP	2033	3049	3510	64	3971	4987	5482
PORTNEUF at Topaz	MAR-JUL	36	47	54	63	61	72	86
	MAR-SEP	47	59	68	64	77	89	107
AMERICAN FALLS RESV INFLOW (1,2)	APR-JUL	31	857	1300	42	1743	2719	3066
	APR-SEP	179	935	1446	44	1957	3084	3303

UPPER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of January

UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - February 1, 2001

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
HENRYS LAKE	90.4	84.8	88.4	78.7	Camas-Beaver Creeks	4	93	54
ISLAND PARK	135.2	111.6	112.1	100.3	Henrys Fork-Falls River	10	66	51
GRASSY LAKE	15.2	12.7	12.4	10.8	Teton River	8	81	65
JACKSON LAKE	847.0	635.2	645.0	479.6	Henrys Fork above Rexburg	18	72	57
PALISADES	1400.0	638.7	1232.2	1044.0	SNAKE above Jackson Lake	9	66	51
RIRIE	80.5	41.4	42.8	34.1	Gros Ventre River	3	81	56
BLACKFOOT	348.7	203.2	280.8	233.8	Hoback River	6	72	57
AMERICAN FALLS	1672.6	1128.0	1159.8	1125.0	Greys River	4	68	59
					Salt River	5	70	62
					SNAKE above Palisades	29	69	55
					Willow Creek	6	82	75
					Blackfoot River	4	74	60
					Portneuf River	5	84	62
					SNAKE abv American Falls	41	72	58

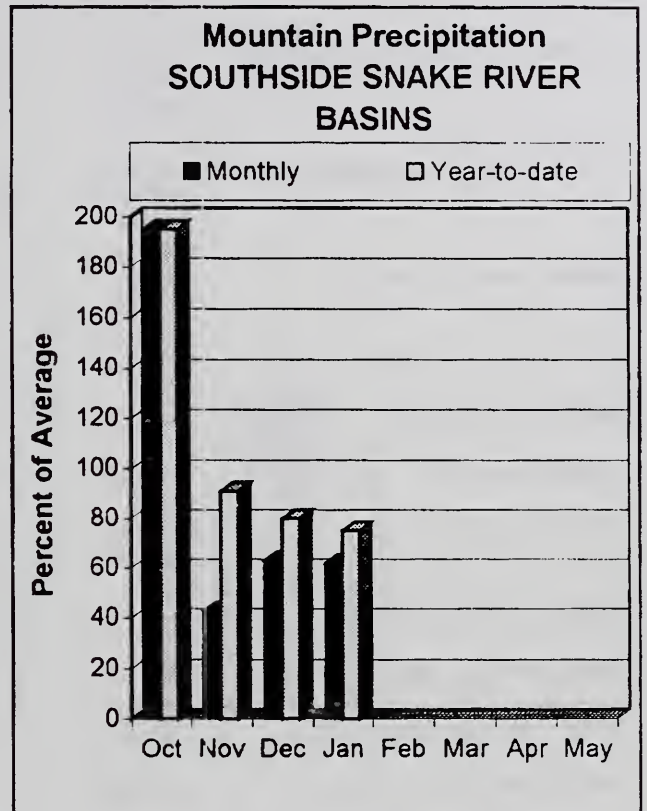
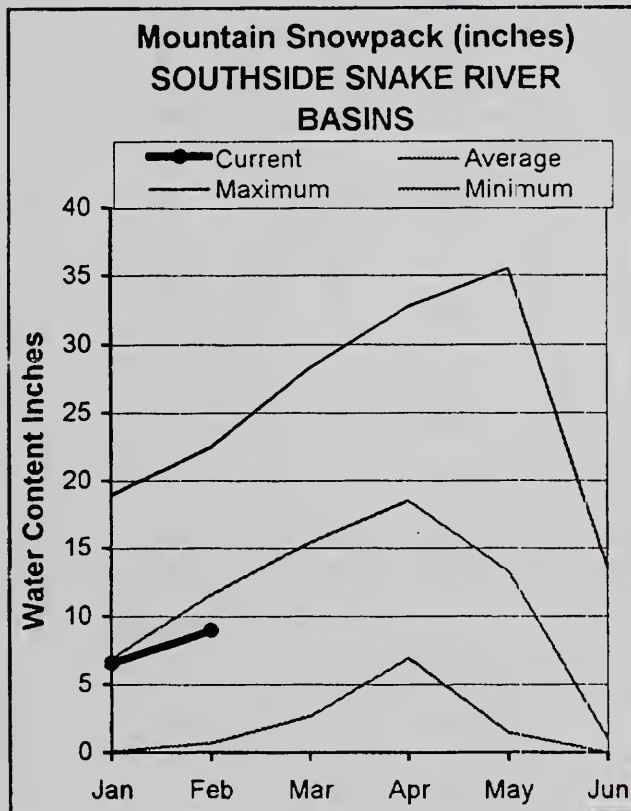
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SOUTHSIDE SNAKE RIVER BASINS FEBRUARY 1, 2001



WATER SUPPLY OUTLOOK

January precipitation was 62% of average, the best in the state. Cumulative precipitation since the beginning of the water year is 75% of average, also the best in the state. The Owyhee, Bruneau and Salmon Falls basins boast the best snowpack in the state at about 85% of average. The Owyhee basin benefited from the low elevation snow fall and snow now covers the entire basin for the first time in several years. Salmon Falls Reservoir is only 10% of capacity, 35% of average; Oakley Reservoir fairs better at 31% of capacity, 92% of average; and the Owyhee Reservoir is 38% of capacity and 58% of average. Streamflow forecasts for the basin range from 48% of average for Owyhee Reservoir inflow and Hells Canyon Dam to 75% for Bruneau River. Water users should be prepared for potential shortages, as the SWSI, which combines reservoir storage with projected streamflow, is below the threshold where shortages occur in the Salmon and Oakley basins. The river running season will be short in these high desert streams this year; river runners should be ready to go when the snow or rain starts increasing flows.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - February 1, 2001

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		===== Chance Of Exceeding * =====						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
OAKLEY RESV INFLOW	MAR-JUL	9.2	14.1	18.0	55	22	30	33
	MAR-SEP	10.5	15.8	20	55	25	33	36
OAKLEY RESV STORAGE	FEB-28	26	28	29	100	30	31	29
	MAR-31	30	32	34	103	36	38	33
	APR-30	33	37	39	103	42	45	38
SALMON FALLS CREEK nr San Jacinto	MAR-JUN	33	47	58	67	70	89	86
	MAR-JUL	33	48	59	65	72	93	91
	MAR-SEP	36	51	63	66	76	98	96
SALMON FALLS RESV STORAGE	FEB-28	17.5	20	22	41	24	27	55
	MAR-31	21	27	31	49	36	42	64
	APR-30	23	30	36	43	41	48	83
BRUNEAU near Hot Springs	MAR-JUL	111	150	179	76	211	263	235
	MAR-SEP	114	154	184	75	217	271	246
OWYHEE near Gold Creek (2)	MAR-JUL	7.3	13.1	17.9	57	24	33	31
OWYHEE nr Owyhee (2)	APR-JUL	5.9	33	51	59	69	96	86
OWYHEE near Rome	FEB-JUL	116	205	280	45	367	516	622
OWYHEE RESV INFLOW (2)	FEB-JUL	137	234	315	48	408	566	656
	FEB-SEP	147	246	328	48	422	581	684
SUCCOR CK nr Jordan Valley	FEB-JUL	0.2	6.2	11.0	68	15.8	23	16.2
SNAKE RIVER at King Hill (1,2)	APR-JUL			1940	67			2896
SNAKE RIVER near Murphy (1,2)	APR-JUL			2000	67			2980
SNAKE RIVER at Weiser (1,2)	APR-JUL			2620	48			5465
SNAKE RIVER at Hells Canyon Dam (1,2)	APR-JUL			2970	49			6129
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	4685	11091	14000	65	16909	23315	21650

SOUTHSIDE SNAKE RIVER BASINS Reservoir Storage (1000 AF) - End of January					SOUTHSIDE SNAKE RIVER BASINS Watershed Snowpack Analysis - February 1, 2001			
Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg	Watershed	Number of Data Sites	This Year as % of Last Yr	% of Average
OAKLEY	74.5	23.4	36.0	25.3	Raft River	2	76	73
SALMON FALLS	182.6	17.6	55.5	50.0	Goose-Trapper Creeks	3	81	69
WILDHORSE RESERVOIR	71.5	35.6	47.1	31.5	Salmon Falls Creek	7	100	83
OWYHEE	715.0	270.3	447.4	464.0	Bruneau River	8	98	82
BROWNLEE	1419.3	1292.5	1234.8	1114.0	Owyhee Basin Total	20	95	88

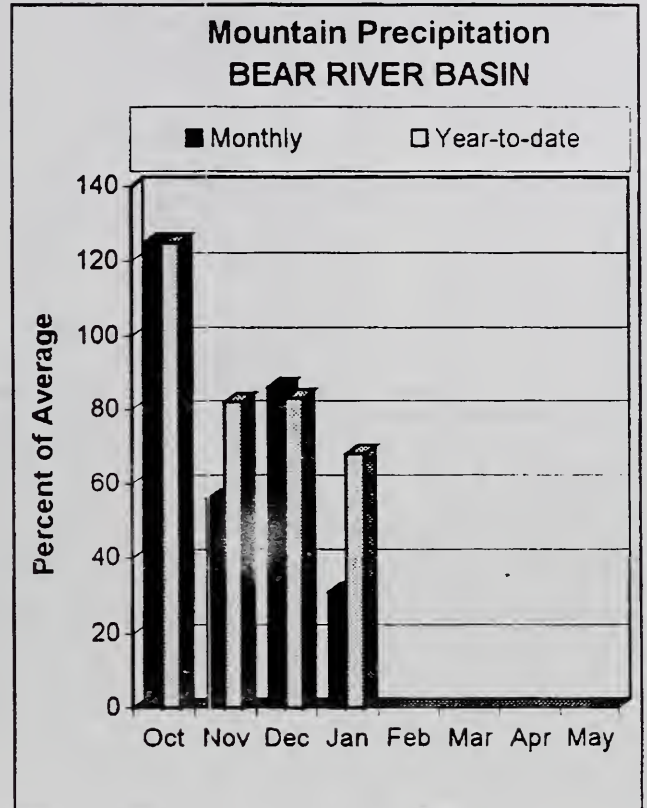
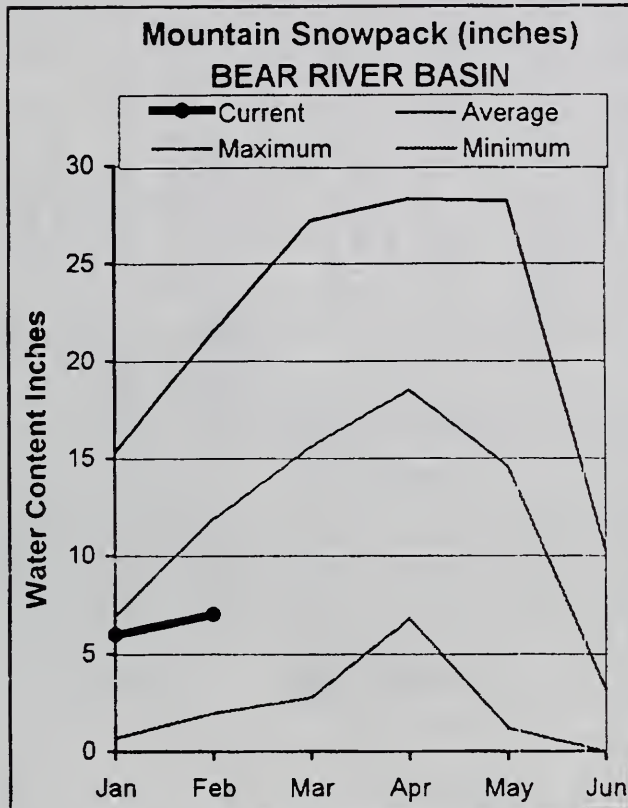
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BEAR RIVER BASIN FEBRUARY 1, 2001



WATER SUPPLY OUTLOOK

January precipitation was only 31% of average. Combined with the late fall and winter storms, thus far, total precipitation for the basin since October 1st is 68% of average. Sedgewick Peak SNOTEL site, located at 7,850 feet near Grace, Idaho, reported 2.1 inches of precipitation in January, the most for the basin; normal precipitation is 4.8 inches. Giveout SNOTEL site located at 6,930 feet near Montpelier, Idaho, reported only 0.7 inches; normal precipitation is 3.3 inches. The snowpack is fairly consistent across the basin but is only 60% of average. The Bear River Basin snowpack is slightly better than it was in 1994 and 1992 and is currently the 4th lowest since 1975. Currently, Bear Lake is 62% of capacity and 89% of average, and Montpelier Creek Reservoir is 33% of capacity and 81% of average. Streamflow forecasts decreased from last month and now range from 50% to 65% of average. Bear Lake water users should have an adequate water supply. Other irrigators who rely on smaller tributaries or reservoirs may experience shortages due to the much below normal snow and stream forecasts.

BEAR RIVER BASIN
Streamflow Forecasts - February 1, 2001

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
BEAR R nr Randolph, UT	APR-JUL	4.0	47	77	65	107	150	118
	APR-SEP	4.0	47	80	63	113	162	127
SMITHS FK nr Border, WY	APR-JUL	43	55	65	64	77	98	102
	APR-SEP	51	64	75	64	88	111	118
THOMAS FK nr WY-ID State Line (Disc.	APR-JUL	8.5	12.4	16.0	49	21	30	33
	APR-SEP	9.2	13.3	17.0	47	22	31	36
BEAR R blw Stewart Dam nr Montpelier	APR-JUL	69	132	175	61	218	281	288
	APR-SEP	75	146	195	60	244	315	327
MONTPELIER CK nr Montpelier (Disc)(2	APR-JUL	4.2	5.5	6.6	54	7.9	10.4	12.2
	APR-SEP	5.1	6.5	7.7	54	9.1	11.5	14.2
CUB R nr Preston	APR-JUL	13.6	22	28	60	34	42	47

BEAR RIVER BASIN Reservoir Storage (1000 AF) - End of January					BEAR RIVER BASIN Watershed Snowpack Analysis - February 1, 2001			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BEAR LAKE	1421.0	874.4	1110.6	978.0	Smiths & Thomas Forks	4	77	61
MONTPELIER CREEK	4.0	1.3	2.8	1.6	Bear River ab WY-ID line	5	75	59
					Montpelier Creek	2	91	64
					Mink Creek	1	83	56
					Cub River	1	82	63
					Bear River ab ID-UT line	12	82	61
					Malad River	1	115	74

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

Streamflow Adjustment List For All Forecasts Published In Idaho Basin Outlook Report Streamflow forecasts are projections of runoff volumes that would have occurred naturally without influences from upstream reservoirs or diversions. These values are referred to as natural or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and inter-basin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made to each forecast point in this report. (Revised 12/2000).

Panhandle River Basins

KOOTENAI R AT LEONIA, ID
+ LAKE KOOCANUSA (STORAGE CHANGE)
BOUNDARY CREEK NEAR PORTHILL, ID - No Corrections
MOYIE RIVER AT EASTPORT, ID - No Corrections
SMITH CREEK NEAR PORTHILL, ID - No Corrections
CLARK FORK AT WHITEHORSE RAPIDS, ID
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS RESV (STORAGE CHANGE)
PEND OREILLE LAKE INFLOW, ID
+ PEND OREILLE R AT NEWPORT, WA
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS (STORAGE CHANGE)
+ PEND OREILLE LAKE (STORAGE CHANGE)
+ PRIEST LAKE (STORAGE CHANGE)
PRIEST R NR PRIEST R, ID
+ PRIEST LAKE (STORAGE CHANGE)
COEUR D'ALENE R AT ENAVILLE, ID - No Corrections
ST. JOE R AT CALDER, ID - No Corrections
SPOKANE R NR POST FALLS, ID
+ COEUR D'ALENE LAKE (STORAGE CHANGE)
SPOKANE R AT LONG LAKE, WA
+ COEUR D'ALENE LAKE (STORAGE CHANGE)
+ LONG LAKE, WA (STORAGE CHANGE)

Clearwater River Basin

DWORSHAK RESERVOIR INFLOW, ID
+ DWORSHAK RESV (STORAGE CHANGE)
- CLEARWATER R AT OROFINO, ID
+ CLEARWATER R NR PECK, ID
CLEARWATER R AT OROFINO, ID - No Corrections
CLEARWATER R AT SPALDING, ID
+ DWORSHAK RESV (STORAGE CHANGE)

Salmon River Basin

SALMON R AT SALMON, ID - No Corrections
SALMON R AT WHITE BIRD, ID - No Corrections

Weiser, Payette, Boise River Basins

WEISER R NR WEISER, ID - No Corrections
SF PAYETTE R AT LOWMAN, ID - No Corrections
DEADWOOD RESERVOIR INFLOW, ID
+ DEADWOOD R BLW DEADWOOD RESV NR LOWMAN
+ DEADWOOD RESV (STORAGE CHANGE)
LAKE FORK PAYETTE RIVER NR MCCALL, ID - No Corrections
NF PAYETTE R AT CASCADE, ID
+ CASCADE RESV (STORAGE CHANGE)
NF PAYETTE R NR BANKS, ID
+ CASCADE RESV (STORAGE CHANGE)

PAYETTE R NR HORSESHOE BEND, ID
+ DEADWOOD RESV (STORAGE CHANGE)
+ CASCADE RESV (STORAGE CHANGE)
BOISE R NR TWIN SPRINGS, ID - No Corrections
SF BOISE R AT ANDERSON RANCH DAM, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)
BOISE R NR BOISE, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)
+ ARROWROCK RESV (STORAGE CHANGE)
+ LUCKY PEAK RESV (STORAGE CHANGE)

Wood and Lost River Basins

BIG WOOD R AT HAILEY, ID - No Corrections
BIG WOOD R NR BELLEVUE, ID - No Corrections
CAMAS CREEK NEAR BLAINE - No Corrections
BIG WOOD R BLW MAGIC DAM NR RICHFIELD, ID
+ MAGIC RESV (STORAGE CHANGE)
LITTLE WOOD R NR CAREY, ID
+ LITTLE WOOD RESV (STORAGE CHANGE)
BIG LOST R AT HOWELL RANCH NR CHILLY, ID - No Corrections
BIG LOST R BLW MACKAY RESV NR MACKAY, ID
+ MACKAY RESV (STORAGE CHANGE)
LITTLE LOST R BLW WET CK NR HOWE, ID - No Corrections
LITTLE LOST R NR HOWE, ID - No Corrections (Disc)

Upper Snake River Basin

HENRY'S FORK NR ASHTON, ID
+ HENRY'S LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)
HENRY'S FORK NR REXBURG, ID
+ HENRY'S LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)
+ DIV FM HENRY'S FK BTW ASHTON & ST. ANTHONY, ID
+ DIV FM HENRY'S FK BTW ST. ANTHONY & REXBURG, ID
+ GRASSY LAKE (STORAGE CHANGE)
FALLS R ABV YELLOWSTONE CANAL NR SQUIRREL, ID
+ GRASSY LAKE (STORAGE CHANGE)
TETON R ABV SO LEIGH CK NR DRIGGS, ID - No Corrections
TETON R NR ST. ANTHONY, ID
- CROSS CUT CANAL
+ SUM OF DIVERSIONS ABV GAGE
SNAKE R NR MORAN, WY
+ JACKSON LAKE (STORAGE CHANGE)
PALISADES RESERVOIR INFLOW, ID
+ SNAKE R NR IRWIN, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)
SNAKE R NR HEISE, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)

BLACKFOOT RESERVOIR INFLOW, ID
 + BLACKFOOT RIVER
 + BLACKFOOT RESERVOIR (STORAGE CHANGE)
 SNAKE R NR BLACKFOOT, ID
 + PALISADES RESV (STORAGE CHANGE)
 + JACKSON LAKE (STORAGE CHANGE)
 + DIV FM SNAKE R BTW HEISE AND SHELLY GAGES
 + DIV FM SNAKE R BTW SHELLY AND BLACKFT, ID
 + JACK NEUF R AT TOPAZ, ID - No Corrections
 AMERICAN FALLS RESERVOIR INFLOW, ID
 + SNAKE RIVER AT NEELEY
 + ALL CORRECTIONS MADE FOR HENRYS FK NR REXBURG, ID
 + JACKSON LAKE (STORAGE CHANGE)
 + PALISADES RESV (STORAGE CHANGE)
 + DIV FM SNAKE R BTW HEISE AND SHELLY GAGES
 + DIV FM SNAKE R BTW SHELLY AND BLACKFT GAGES

Southside Snake River Basins

OAKLEY RESERVOIR INFLOW, ID
 + GOOSE CK ABV TRAPPER CK NR OAKLEY, ID
 + TRAPPER CK NR OAKLEY, ID
 SALMON FALLS CK NR SAN JACINTO, NV - No Corrections
 BRUNEAU R NR HOT SPRINGS, ID - No Corrections
 OWYHEE R NR GOLD CK, NV
 + WILDHORSE RESV (STORAGE CHANGE)
 OWYHEE R NR OWYHEE, NV
 + WILDHORSE RESV (STORAGE CHANGE)
 OWYHEE R NR ROME, OR - No Corrections
 OWYHEE RESERVOIR INFLOW, OR
 + OWYHEE R BLW OWYHEE DAM, OR
 + OWYHEE RESV (STORAGE CHANGE)
 + DIV TO NORTH AND SOUTH CANALS
 SUCCOR CK NR JORDAN VALLEY, OR - No Corrections
 SNAKE R - KING HILL, ID - No Corrections
 SNAKE R NR MURPHY, ID - No Corrections
 SNAKE R AT WEISER, ID - No Corrections
 SNAKE R AT HELLS CANYON DAM, ID
 + BROWNLEE RESV (STORAGE CHANGE)

Bear River Basin

BEAR R NR RANFOLPH, UT
 + SULPHUR CK RESV (STORAGE CHANGE)
 + CHAPMAN CANAL DIVERSION
 + WOODRUFF NARROWS RESV (STORAGE CHANGE)
 SMITHS FORK NR BORDER, WY - No Corrections
 THOMAS FORK NR WY-ID STATELINE - No Corrections (Disc)
 BEAR R BLW STEWART DAM, ID
 + SULPHUR CK RESV (STORAGE CHANGE)
 + CHAPMAN CANAL DIVERSION
 + WOODRUFF NARROWS RESV (STORAGE CHANGE)
 + DINGLE INLET CANAL
 + RAINBOW INLET CANAL

MONTPELIER CK AT IRR WEIR NR MONTPELIER, ID (Disc)
 + MONTPELIER CK RESV (STORAGE CHANGE)

CUB R NR PRESTON, ID - No Corrections

RESERVOIR CAPACITY DEFINITIONS (Units in 1,000 acre-feet, KAF)

Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. This table lists these volumes for each reservoir, and defines the storage volumes NRCS uses when reporting capacity and current reservoir storage. In most cases, NRCS reports usable storage, which includes active and inactive storage. (Revised December 2000)

BASIN/ RESERVOIR	DEAD STORAGE	INACTIVE STORAGE	ACTIVE STORAGE	SURCHARGE STORAGE	NRCS CAPACITY	NRCS CAPACITY INCLUDES
<u>PANHANDLE REGION</u>						
HUNGRY HORSE	39.73	--	3451.00	--	3451.0	ACTIVE
FLATHEAD LAKE	unknown	--	1791.00	--	1971.0	ACTIVE
NOXON RAPIDS	unknown	--	335.00	--	335.0	ACTIVE
PEND OREILLE	406.20	112.40	1042.70	--	1561.3	DEAD+INACTIVE+ACTIVE
COEUR D'ALENE	--	13.50	225.00	--	238.5	INACTIVE+ACTIVE
PRIEST LAKE	20.00	28.00	71.30	--	119.3	DEAD+INACTIVE+ACTIVE
<u>CLEARWATER BASIN</u>						
DWORSHAK	--	1452.00	2016.00	--	3468.0	INACTIVE+ACTIVE
<u>WEISER/ROISE/PAYETTE BASINS</u>						
MANN CREEK	1.61	0.24	11.10	--	11.1	ACTIVE
CASCADE	--	46.70	646.50	--	693.2	INACTIVE+ACTIVE
DEADWOOD	--	--	161.90	--	161.9	ACTIVE
ANDERSON RANCH	24.90	37.00	413.10	--	450.1	INACTIVE+ACTIVE
ARROWROCK	--	--	272.20	--	272.2	ACTIVE
LUCKY PEAK	--	28.80	264.40	13.80	293.2	INACTIVE+ACTIVE
LAKE LOWELL	7.90	5.80	159.40	--	165.2	INACTIVE+ACTIVE
<u>WOOD/LOST BASINS</u>						
MAGIC	--	--	191.50	--	191.5	ACTIVE
LITTLE WOOD	--	--	30.00	--	30.0	ACTIVE
MACKAY	0.13	--	44.37	--	44.4	ACTIVE
<u>UPPER SNAKE BASIN</u>						
HENRYS LAKE	--	--	90.40	--	90.4	ACTIVE
ISLAND PARK	0.40	--	127.30	7.90	135.2	ACTIVE+SURCHARGE
GRASSY LAKE	--	--	15.18	--	15.2	ACTIVE
JACKSON LAKE	--	--	847.00	--	847.0	ACTIVE
PALISADES	44.10	155.50	1200.00	--	1400.0	DEAD+INACTIVE+ACTIVE
RIRIE	4.00	6.00	80.54	10.00	80.5	ACTIVE
BLACKFOOT	--	--	348.73	--	348.7	ACTIVE
AMERICAN FALLS	--	--	1672.60	--	1672.6	ACTIVE
<u>SOUTHSIDE SNAKE BASINS</u>						
OAKLEY	--	--	74.50	--	74.5	ACTIVE
SALMON FALLS	48.00	--	182.65	--	182.6	ACTIVE
WILDHORSE	--	--	71.50	--	71.5	ACTIVE
OWYHEE	406.83	--	715.00	--	715.0	ACTIVE
BROWNLEE	0.45	444.00	975.30	--	1419.3	INACTIVE+ACTIVE
<u>BEAR RIVER BASIN</u>						
WOODRUFF NARROWS	--	1.50	57.30	--	57.3	ACTIVE
WOODRUFF CREEK	--	4.00	4.00	--	4.0	ACTIVE
BEAR LAKE	--	--	1421.00	--	1421.0	ACTIVE
MONTPELIER CREEK	0.21	--	3.84	--	4.0	DEAD+ACTIVE

Interpreting Streamflow Forecasts

Introduction

Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflow forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

Most Probable (50 Percent Chance of Exceeding) Forecast. This forecast is the best estimate of streamflow volume that can be produced given current conditions and based on the outcome of similar past situations. There is a 50 percent chance that the streamflow volume will exceed this forecast value. There is a 50 percent chance at the streamflow volume will be less than this forecast value.

The most probable forecast will rarely be exactly right, due to errors resulting from future weather conditions and the forecast equation itself. This does not mean that users should not use the most probable forecast; it means that they need to evaluate existing circumstances and determine the amount of risk they are willing to take by accepting this forecast value.

To Decrease the Chance of Having Too Little Water

Users want to make sure there is enough water available for their operations, they might determine that a 50 percent chance of the streamflow volume being lower than the most probable forecast is too much risk to take. To reduce the risk of not having enough water available during the forecast period, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded (or possibly some point in between). These include:

70 Percent Chance of Exceeding Forecast. There is a 70 percent chance that the streamflow volume will exceed this forecast value.

There is a 30 percent chance the streamflow volume will be less than this forecast value.

90 Percent Chance of Exceeding Forecast. There is a 90 percent

chance that the streamflow volume will exceed this forecast value.

There is a 10 percent chance the streamflow volume will be less than this forecast value.

To Decrease the Chance of Having Too Much Water

Users want to make sure they don't have too much water, they might determine that a 50 percent chance of the streamflow being higher than the most probable forecast is too much of a risk to take. To reduce the risk of

having too much water available during the forecast period, users can base their operational decisions on one of the forecasts with a smaller chance of being exceeded. These include:

30 Percent Chance of Exceeding Forecast. There is a 30 percent chance that the streamflow volume will exceed this forecast value. There is a 70 percent chance the streamflow volume will be less than this forecast value.

10 Percent Chance of Exceeding Forecast. There is a 10 percent chance that the streamflow volume will exceed this forecast value. There is a 90 percent chance the streamflow volume will be less than this forecast value.

Using the forecasts - an example

Using the Most Probable Forecast. Using the example forecasts shown below, users can reasonably expect 36,000 acre-feet to flow past the gaging station on the Mary's River near Death between March 1 and July 31.

Using the Higher Exceedence Forecasts. If users anticipate a somewhat drier trend in the future (monthly and seasonal weather outlooks are available from the National Weather Service every two weeks), or if they are operating at a level where an unexpected shortage of water could cause problems, they might want to plan on receiving only 20,000 acre-feet (from the 70 percent chance of exceeding forecast). In seven out of ten years with similar conditions, streamflow volumes will exceed the 20,000 acre-foot forecast.

If users anticipate extremely dry conditions for the remainder of the season, or if they determine the risk of using the 70 percent chance of exceeding forecast is too great, then they might plan on receiving only 5000 acre-feet (from the 90 percent chance of exceeding forecast). Nine out of ten years with similar conditions, streamflow volumes will exceed the 5000 acre-foot forecast.

Using the Lower Exceedence Forecasts. If users expect wetter future conditions, or if the chance that five out of every ten years with similar conditions would produce streamflow volumes greater than 36,000 acre-feet was more than they would like to risk, they might plan on receiving 52,000 acre-feet (from the 30 percent chance of exceeding forecast) to minimize potential flooding problems. Three out of ten years with similar conditions, streamflows will exceed the 52,000 acre-foot forecast.

In years when users expect extremely wet conditions for the remainder of the season and the threat of severe flooding and downstream damage exists, they might choose to use the 76,000 acre-foot (10 percent chance of exceeding) forecast for their water management operations. Streamflow volumes will exceed this level only one year out of ten.

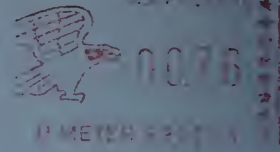
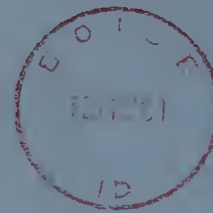
WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts

Forecast Point	Forecast Period	<<===== Drier =====>>>				Future Conditions				Wetter =====>>>			
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)	90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF PAYETTE RIVER at Lowman	APR-JUL	329	414	471	109	528	613	432					
	APR-SEP	369	459	521	107	583	673	488					
BOISE RIVER near Twin Springs (1)	APR-JUL	443	610	685	109	760	927	631					
	APR-SEP	495	670	750	109	830	1005						

For more information concerning streamflow forecasting ask your local NRCS field office for a copy of "A Field Office Guide for Interpreting Streamflow Forecasts" or visit our Web page.



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